

In the Drawings:

The Examiner has objected to the drawings as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference signs for "System 400" mentioned in the description. A reference sign for System 400 has been added to Figure 5, a corrected copy of which is submitted herewith.

REMARKS

Reconsideration of the above-identified application in view of the following remarks is respectfully requested.

Claims 1-41 are pending in the application.

Claim Rejections - 35 USC § 102

The Examiner has rejected claims 1-4 and 7-11 under 35 U.S.C. 102(b) as being anticipated by Knowlton (6,427,089 B1). The Examiner's objection is respectfully traversed.

The Examiner states that Knowlton teaches an inflatable balloon with a plurality a strain gauges operable to inform a physician of a degree of expansion of a local portion of a wall of the expandable balloon. However, Knowlton's strain gauges are merely presented as sensors operable to detect contact between a balloon and tissues surrounding the balloon. No part of Knowlton's text states or suggests that his sensors 26 measure characteristics of the balloon itself. In column 14 lines 59-61 Knowlton states that the purpose of the sensors is to measure the degree of contact of the balloon with the gastric mucosa, and starting on line 64 he states that "Sensors 24 can be coupled to an electronic monitoring system ... to inform the physician of the degree of contact of balloon 14 with gastric mucosa 20." and goes on to say (col. 15, lines 1-3) that "the combination of control system 28 and contact sensors 26 can also be used to regulate the delivery of energy to tissue site 18", presumably by "measuring the degree of contact of balloon 14 with gastric mucosa 20 before, during, and after the delivery of energy to the tissue site." As stated in col. 14, lines 60-62.

Thus Knowlton's sensors measure detect contact or lack of contact between balloon 14 and surrounding tissues, and do not report characteristics of balloon 14 itself.

Claim 1 of the instant application specifies "a plurality of strain gauges each operable to report a degree of expansion of a local portion of a wall of said expandable balloon". The strain gauges or contact sensors or other sensors described in Knowlton's text do not do this.

Thus, the Applicant submits that Knowlton's disclosure does not anticipate claim 1 and claims dependent thereon, and that these claims should consequently be considered to be in a state of allowance.

Claim Rejections – 35 USC § 103 -- Holmes

The Examiner has rejected claims 5-6 and 12 under 35 U.S.C. 103(a) as being unpatentable over Knowlton (6,427,089 B1) as applied in the Examiner's 35 USC 102 rejections, and further in view of Holmes et al. 4,873,990. The Examiner's rejection is respectfully traversed.

The relevance of Knowlton in general has been discussed above in the context of responding to the Examiner's 35 USC 102 rejections. Those arguments are also applicable here, and, the Applicant believes, show claims 5,6, and 12 to be allowable over the cited prior art.

In addition, with particular reference to claims 5 and 6, the Examiner states that Holmes teaches the circumferential configuration of the strain gauges around the balloon, and refers to Holmes element 15 of his Figure 1. However, Holmes refers to a probe having "a series of deformable wall sensors along it's length" (col. 2, lines 47-48), each of which is a sensor which individually covers at least 75% of the circumference of the support tube (col. 6, lines 10-11).

Claims 5 and 6 of the instant application specify a plurality of strain gauges mounted in a circumferential configuration around a balloon. This specification is clearly not anticipated by Holmes, because Holmes describes and his Figure 1 shows a longitudinally (not circumferentially) positioned plurality of sensors 15, each of which is individually circumferential in that it individually wraps around all or most of a probe.

Claim 5 of the instant application specifies a plurality of probes arranged in a circumferential pattern: it is the *plurality* of probes, the group of probes, which is circumferentially positioned. This specification is clearly not suggested nor anticipated by Holmes.

Claim Rejections – 35 USC § 103 -- Shah

The Examiner has rejected claims 13-17, 19-23, 27-33, and 36-40 under 35 U.S.C. 103(a) as being unpatentable over Knowlton (6,427,089 B1) and further in view of Shah (6,081,737). The Examiner's rejection is respectfully traversed.

As has been shown above, Knowlton does not in fact teach "a plurality of strain gauges each operable to report to a physician a degree of expansion of a local portion of a wall of an expandable balloon". Rather, Knowlton teaches a balloon with contact sensors only, which contact sensors are operable to report whether portions of the balloon are touching tissues around the balloon, but which report nothing else concerning the expansion or other characteristics of the balloon itself. In particular, Knowlton's contact sensors cannot provide information about relative degrees of expansion of differing portions of a balloon. Consequently, the contact sensors of Knowlton cannot be used to provide information required by Shah's diagnostic methods. Therefore, combining the teachings of Knowlton and Shah would provide neither a balloon-based method nor a balloon-based system for detecting an obstruction in a blood vessel. The Applicant therefor believes that claims 13 and 19, and claims depending thereon, are patentably distinct from the cited prior art and should therefor be allowed.

Early allowance of the pending claims of the present application is earnestly solicited.

Respectfully submitted,



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Encls:

- Petition for Extension of Time Fee for Two (2) Month;
- Letter to Chief Draftsman;
- Annotated Drawing Sheet (Figure 5);
- Formal Drawing Transmittal Sheet;
- Formal Drawings (two sheets)

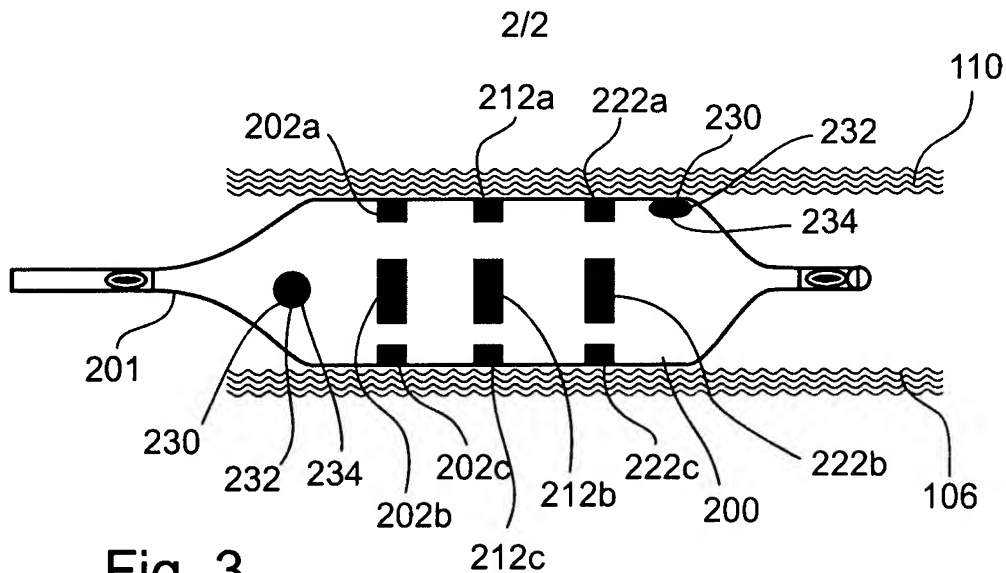


Fig. 3

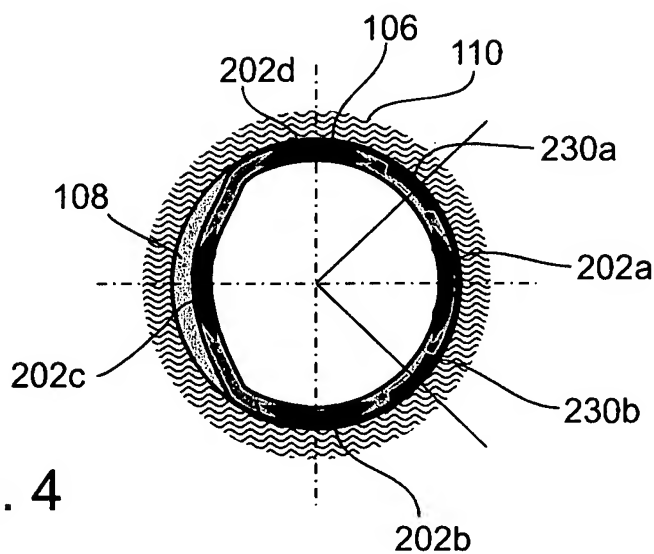


Fig. 4

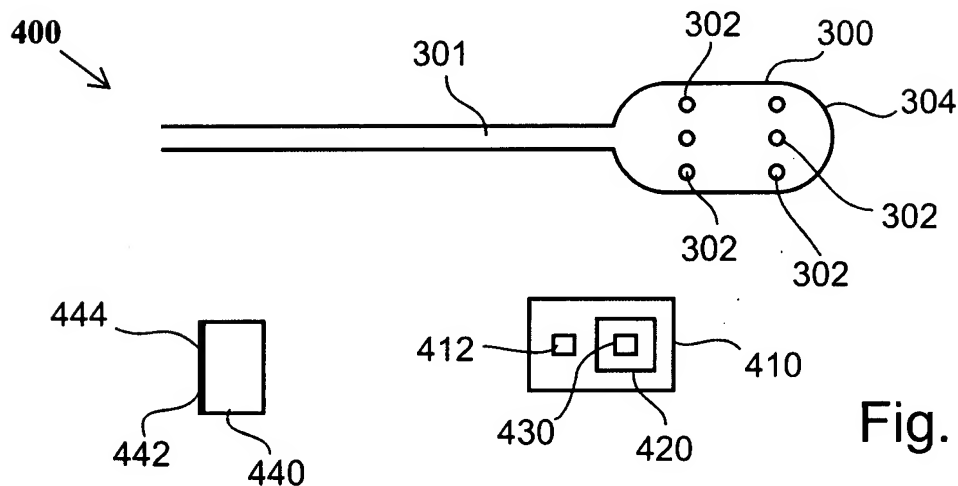


Fig. 5